Using Gaming To Make Complex Decisions . . .

BEHIND THE INSTALLATION TRANSFORMATION GAME

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2015: An Objective Brigade Combat Team (OBCT) deploys to Southeast Asia from Fort Synergy, its base in California. Fort Synergy has reached new levels of integration with the surrounding community. All medical care, emergency response, housing, and quality of life services are "outside the wire." The forces deploying from Fort Synergy also represent a transformation, with equipment and contingency operations (CONOPS) unlike anything in the Legacy Force. Of course, the Army National Guard (ARNG) and Army Reserve units preparing to flow into Fort Synergy to train and backfill still rely on their legacy systems.

2001: Fourteen years before, leaders from the Services, DOD, and industry considered the situation. What training and maintenance facilities will be needed at Fort Synergy to support both Objective and Legacy Forces? Newer units will still rely on live-fire exercises, but simulation will be central to their training regimen, especially as local communities encroach on the perimeters of western U.S. installations. "Virtual ranges" will probably fill many of the old maintenance buildings rendered obsolete by the unique new OBCT platforms. Reserve and ARNG units will still have their heavy, diesel-fueled equipment, and will need a different range of training and maintenance facilities. Should the ARNG and Reserve units train at another facility before coming to this installation? Should ARNG and Reserve units do annual training at Fort Synergy to ensure the infrastructure they need is in place? Can we cross-train installation personnel to support both Objective and Legacy Forces? One of them throws out an idea: What if we did it this way?

Introduction

Army transformation is proceeding rapidly. New concepts of operations, force structures, and weapons are all in development. One underappreciated element in this is the installation. For a period roughly from 2009 to 2015, Army installations will host three different generations of combat units: the Legacy, Interim, and Objective Forces. The challenge increases when we consider that the structure, equipment, and CONOPS of the OBCT are not yet defined. Long lead time requirements for military construction and other unknown requirements demand that the Army begin addressing the complex questions of installations and force transformation.

In September 2001, under the sponsorship of the Office of the Assistant Chief of Staff for Installation Management (OACSIM), the U.S. Army Corps of Engineers (USACE) asked Toffler Associates, an industry consultant in the areas of organizational change and adjustment, to design a game to identify dominant variables that should govern design and operation of future installations. The objective was to explore how installations must transform to enhance the deployment, sustainment, training, readiness, and survivability of future Army forces, and the quality of life of tomorrow's soldiers and their families.

OACSIM also identified another goal for the game: to identify mechanisms for accelerating installation transformation. Toffler Associates created a seminar-style game to elicit critical data and insights from general officer/CEO-level participants from inside and outside DOD. The technique successfully leveraged the players' creativity and years of experience in combat operations, facilities design and maintenance, and management to meet OACSIM's goals.

Full-Spectrum Gaming

The approach taken by OACSIM and USACE illustrates how powerful and practical gaming can be. First, it's important to be *strategic* in setting the context. Well prior to the game, interviews were held with those experts throughout DOD and the private sector who have experience in disciplines relevant to installations. Each interview focused on illuminating the critical future issues with regard to installations and traced their implications back to today. Simultaneously, in-depth research was conducted on these issues and challenges. This data all fed directly into the game design process.

Because transformation is about tomorrow's force and tomorrow's installations, the game was made *futuristic*, while taking care to remain plausible. The value of gaming a complex issue like installation transformation is the opportunity it affords to illuminate future consequences of surprise as well as unanticipated future opportunities. Key elements of future issues, threats, and opportunities were seeded into the game scenarios as a result of information gathered from the interviews and research. The futuristic construct forced players to project power (OBCT and Legacy Forces) from hypothetical, novel kinds of installations (Fort Synergy and Fort Autonomy). Additionally, testing helped determine, among other things, the level of community integration versus the level of force protection that the future force will require.

A key element of the game was its *experimental* and *conditional* design. Games can and must produce objective and verifiable data that decisionmakers can use. Hypotheses were developed that shaped every step of the work—scenario, game moves, elicitation process, data collection, and post-game analysis and exploitation. The features

of the two futuristic installations determined how different players would execute parallel tasks from different kinds of installations. Those tasks tested hypotheses regarding relationships between installation design and performance of military tasks.

In each task, game planners ensured that the design of the installations was the operative factor in decisionmaking. Also in each move, dilemma conditions were created to further test hypotheses. Players had to determine ways to respond to each challenge while meeting mission requirements within the context of their installation design. In this way, data were collected to help support or refute hypotheses about how installation designs impact deployment timelines, how design choices can impede or facilitate support of different types of units from the same base, and how design choices can diminish or enhance ecosystem impact and soldier wellness.

Another design element that makes gaming so powerful for complex problem solving is its *experiential, competitive* nature. In the installation transformation game, participants "felt" the new opportunities and risks in richer detail than they would have in another kind of interaction. To the greatest extent possible, the game presented our role-playing decisionmakers with the experiences they needed to realistically evaluate options and determine the trade-offs they had to make in their futuristic conditions. Moreover, the competitive nature of the interaction added multidimensionality, unpredictability, and energy to our players' planning. The teams competed against time, against unpredictable conditions, and the inherent uncertainty of installation transformation requirements. The challenge of these competitive conditions generated more robust ideas than other techniques might have, helping to meet the game sponsors' aims.

The Game Experience

The players convened at the Johns Hopkins University Applied Physics Laboratory in Laurel, MD, on Dec. 6, 2001. The conference facility, the Warfare Analysis Laboratory (WAL), featured state-of-the-art technology known as "groupware" that enabled players to "converse" electronically throughout the day with detailed comments and ideas about the content and direction of the game. This enabled game sponsors and designers to capture and rapidly study an enormous trove of data and innovative thinking that formed the basis of post-game analysis. The groupware and other WAL capabilities were important in developing actionable conclusions and recommendations quickly about specific installation transformation issues and opportunities.

The diversity and quality of the players were also key to the game's success. Senior executives from DOD installations were represented in force, providing the expertise needed to support exploration of these complex issues. Augmenting these installation experts were senior leaders from Army operational commands, industry executives, senior representatives from non-DOD government agencies, attorneys, and others. By bringing together this broad range of expertise, game planners began developing solutions to installation transformation challenges that were realistic and practical but also highly innovative and future-focused.

During each move, the senior officer on each team played the role of the commander-in-chief (CINC) while other players acted as members of the CINC's staff. After the breakout sessions, each CINC reported key findings. The reports focused on data that supported or refuted hypotheses focused on the game sponsors' issues of greatest concern. In the afternoon, the players conducted an analytical move. The players discussed and agreed on a top-line mission essential task list (METL) for future installations to support Army combat capability. They also identified the need for multiple METLs to address the very different missions carried out by the different types of Army installations, including training, depots, and arsenals.

Turning Data Into Action

Immediately following the game, Toffler Associates developed its initial analysis. Data for the analysis included the groupware transcripts and detailed game notes. Three days later, the initial analysis served as the starting point for a discussion on how to accelerate the process for transformation.

A more thorough analysis of the game data was then completed, along with findings, conclusions, and recommendations on how the Army should proceed with installation transformation. Findings drawn from research and game play fueled conclusions about the hypothesis. Recommendations based on the conclusions identified critical path steps the Army must take to successfully implement transformation to meet the timeline for the Objective Force.

Conclusion

Full-spectrum gaming can be a powerful tool for addressing complex issues such as installation transformation. The principles of full-spectrum gaming help ensure the key issues and perspectives of the future are mapped to the real concerns of real planners and decisionmakers for maximum learning and practical value. The game brought to realization the decisions that need to be made, and are being made, by OACSIM and others. Now the impact of the game ripples through the Army and DOD. The process of change is underway.

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